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Perception of a Regional Spanish Sound: The Case of /s/-weakening

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Abstract

While taking foreign language classes or interacting in the target language community, language learners will be exposed to dialectal differences. This paper addresses how adult learners of Spanish in beginning, intermediate, and advanced Spanish courses at a large US university perceived a common sociolinguistic feature of Spanish, /s/-weakening, which can vary for stylistic, gender, and geographical reasons. The implications for teaching and learning foreign languages will be addressed, noting the importance of teaching common sociolinguistic features that are salient to native speakers but less salient to second language learners.

Background

Learners of foreign languages are often exposed to many different varieties, or dialects, of the language. They often have a variety of instructors, many of whom may speak different regional varieties of the target language (TL). In addition, they may be exposed to a variety of TL dialects in required online activities and in-class activities involving listening comprehension skills. Students who study abroad are also exposed to the language variety of the area where they study. Is study abroad necessary to perceive these features? Why is it important to perceive these features? Is it possible to perceive them based on exposure in the classroom? What is the role of proficiency level? The present study addresses these questions by investigating Spanish university students' perception of /s/-weakening, a common phonological feature found in many varieties of Spanish. This phenomenon, when the /s/ at the end of a syllable is weakened, either deleted or aspirated, is common in up to 50% of the varieties of spoken Spanish (Hammond, 2001). An example of /s/-weakening is /pahta/ or /pata/ instead of /pasta/. Native speakers of non /s/-weakening dialects are capable of understanding each other, although with longer response times than native speakers from /s/-weakening varieties (Boomershine, 2006). Less is known about how students of Spanish perceive /s/-weakening.

The current research investigates native English speakers' perception of /s/-weakening in beginning, intermediate, and advanced Spanish courses in order to determine if and how these second language (L2) Spanish learners perceive /s/-weakening (e.g., the 's' in *'pasta'*). In other words, do they perceive the /s/ as deleted (/*paØta*/), as an [h] (/*pahta*/), as an [s] (/*pasta*/), or as some other sound (*pafta*/) when it is aspirated or deleted?

Review of the Literature

/S/-weakening is widespread throughout the Spanish-speaking world, with millions of Spanish speakers aspirating or deleting /s/ on a regular basis. In Venezuela /s/-weakening is the norm, especially in higher social classes where it is considered a prestige marker. Both syllable and word-final /s/ is aspirated or deleted (Lipski, 1994).

Having knowledge of /s/-weakening means attaining more sociolinguistic competence, which forms a part of language competence (Bachman, 1990). Sociolinguistic competence includes sensitivity to dialects and their registers. "[A] key component to sociolinguistic competence is knowing how to vary one's language (and interpret language one hears or reads) according to the social context" (Geeslin, 2011, p. 501). Learners of any foreign language benefit from the ability to understand the variety of TL dialects they are faced with both inside and outside the classroom.

Learners of Spanish may have difficulty perceiving /s/-weakening, because it does not occur in English. The sound often associated with /s/-weakening is /h/. While /h/ occurs in English (e.g., the 'h' in 'has'), it is never possible for it to occur at the end of a syllable in English.

In Spanish, /h/ is a variant of /s/-weakening, meaning that /h/ is a sound used when speakers weaken their /s/ (e.g., */pahta/* instead of */pasta/*). The reason native English speakers may have difficulties perceiving /s/-weakening could be because /h/ is not a variant of /s/ in English (McMahon, 2002). For example, in English one would not say /duht/ to mean /dust/. Native English speakers may not associate, at first, /s/-weakening with [h]. Four recent studies elucidate the claim that Spanish language students are shown to perceive /s/ aspiration in a different manner from native Spanish speakers.

The first study conducted by Schmidt (2009), found that 11 adult students of varying Spanish proficiency levels, as determined via a written grammatical proficiency test, were able to improve their comprehension of Dominican Spanish speakers while staying in the Dominican Republic for three weeks. Their progress was measured with a listening comprehension task prior to and directly after the students went abroad, in which they were asked to write the word or phrase heard in Spanish and provide the English equivalent. This aural speech sample included four regional features—/s/-weakening, intervocalic /d/ weakening (i.e., the deletion of 'd' between vowels as in '*hablao*' instead of '*hablado*'), lambdacism (i.e., the pronunciation of 'r' as 'l' as in '*puelto*' instead of '*puerto*'), and /n/-velarization (i.e., the pronunciation of 'n' at the end of a word as velar instead of nasal as in '*pang*' instead of '*pan*'). Although the students were consistently able to understand Spanish speakers from Costa Rica, Spain, and Colombia significantly better than Dominican Spanish speakers, their three-week stay nonetheless resulted in increased comprehension of the Dominican dialect.

The effects of instruction on the perception of Andalusian Spanish, or the Spanish spoken in the region of Andaluz in Southern Spain, were measured by Rasmussen and Zampini (2010). Ten native English-speaking participants in an experimental group received six half-hour training sessions on four dialectal phonetic features of Andalusian Spanish, one of which was /s/-weakening, over the course of

six weeks while studying abroad in Seville, Spain. Six native English-speaking participants in the control group did not receive this training. All participants, who were intermediate and advanced Spanish students completed a pre- and post-test where they listened to a series of recorded sentences spoken by two males and two females, all native Andalusian Spanish speakers. The participants were instructed to fill in the blank of the missing words to test for intelligibility and to transcribe the entire sentence to test for comprehensibility. Both the control and experimental groups improved on the perception of /s/-weakening. Students entered the study abroad program with some knowledge of /s/-weakening as students in the control group transcribed 15% of the words correctly and students in the experimental group transcribed 14% correctly on the pre-test. After instruction occurred, transcription accuracy for the control group increased by 10% and for the experimental group by 27%. The authors note, however, that the control group increased their ability to transcribe function words, such as definite articles, and not necessarily content words. This study demonstrated that explicit instruction during study abroad was not necessary for students to increase their perception of /s/-weakening. Nevertheless, explicit instruction while abroad resulted in a higher increase in comprehensibility than study abroad without explicit instruction. It should be noted that the intermediate and advanced students in this study were never able to transcribe the words with great accuracy, reaching a peak accuracy of 41%.

A third study conducted by Trimble (2011) investigated L2 perception of various Spanish dialects, including some that typically exhibited /s/-weakening, by L2 students at the intermediate and advanced level. The university students listened to phrases spoken by 24 Spanish speakers. The Spanish speakers included two males and two females, who were near-native speakers of Spanish but did not identify with any particular dialect. Two males and two females spoke each of the following varieties of Spanish: Caribbean, Castilian, Rioplatenese (i.e., Buenos Aires, Argentina), Colombian, and Mexican. The L2 learners were asked to transcribe what they thought they heard and to rank what they heard on a scale corresponding to how easy or hard it was to understand each speech sample. The results revealed that Colombian, Mexican, and near-native Spanish speaker dialects were significantly more intelligible than Caribbean, Castilian, and Rioplatenese dialects. Caribbean and Rioplatense Spanish are both known as /s/-weakening varieties of Spanish, while Colombian and Mexican Spanish are not. Higher proficiency level meant higher intelligibility, with the advanced students exhibiting higher intelligibility scores than the intermediate students for all dialects. Among the advanced students, those with more Spanish contact outside the classroom performed significantly better, with respect to intelligibility scores, than students with less contact.

Schmidt (2011) carried out the first large-scale study of /s/-weakening, conducting his research with 215 university students in five different levels of Spanish. The levels of Spanish corresponded to the courses in which the students were enrolled at the university, having been placed according to results on a proficiency test administered by the university. For the study, students responded to recorded spoken prompts of native speakers from Colombia (a non /s/-weakening variety) and Argentina (an /s/-weakening variety), and selected the word they thought they heard, with the options including 'f', 'l', 'r', 'n', 'nothing', or 's'. The results demon-

strated that beginning students generally had a difficult time identifying the /s/ as 's'. There were more incidences of identifying the /s/ as 's' by high intermediate students. More advanced students perceived /s/ as 's' significantly more than beginning and intermediate students. The most advanced students, near native-speaking graduate students, were on par with native speakers who also completed the experiment. The native speakers came from non /s/-weakening dialects of Spanish. In addition, results from students who had completed study abroad experiences in /s/-weakening regions suggested a correlation between that exposure and their ability to correctly perceive /s/-weakening. Schmidt's study, unlike the current study, limited students to a forced-choice response of one of six choices of sounds they identified as /s/-weakening. The current study allows students to transcribe the word they thought they heard, much like the study design of Trimble (2011). In this way, the participants are not faced with a choice, but rather generate an original response by writing the word they thought they heard, without any prompting.

In each of the studies reviewed here, results indicate that students perceive /s/-weakening to varying degrees. Furthermore, incidences of increased perceptive abilities seem to be marked by proficiency level, defined largely by the program of study, and study abroad or contact in the TL outside of class. The current study adds to the growing research on the acquisition of sociolinguistic features by foreign language students by addressing the following research questions:

1. Do adult native English speakers learning Spanish perceive /s/-weakening?

    1a. If /s/-weakening is perceived, are there differences across proficiency levels?

2. How do students' perception of /s/-weakening compare to native speakers' perception of /s/-weakening?

3. How do adult native English speakers learning Spanish perceive /s/-weakening?

Methods

Subjects

The participants, all adult native English speakers learning Spanish at a large midwestern university in the U.S., ranged in age from 18 to 40. Nineteen students were enrolled in second semester beginning Spanish, 21 in fourth semester intermediate Spanish, and 27 in low-advanced Spanish (i.e., sixth semester Spanish or beyond). The students in beginning Spanish were true beginners who completed the first semester beginning Spanish course prior to enrolling in the second semester beginner course. The intermediate students had either taken three semesters of Spanish prior to enrolling in the course, or had tested into this level via a proficiency test conducted by the language-testing program at the university. The advanced students completed a speaking, writing, listening, and reading comprehension test to determine if they had the proficiency level needed to enroll in fifth semester Spanish. Two native Spanish speakers, both from non /s/-weakening regions, also performed both tasks.

Tasks

A native university-educated Venezuelan female speaker read a list of words, some of which she was instructed to pronounce with a full /s/ and others with a weakened /s/ as she would in her native dialect. [1] The words chosen were all real Spanish words versus invented words sometimes used in studies. The speaker pronounced one word at a time, pausing slightly between words. The words were recorded with a Marantz digital recorder in random order. Each participant listened to the recording of the speaker pronouncing each word and then on their answer sheet for Task 1 (see Appendix A) circled one of two words (e.g., '*costa*' or '*cota*'), based on what they thought they heard. The participants also heard distracter words, which were all minimal pairs, or words that differ by one sound only (e.g., '*pelo*', '*palo*'), and were instructed to circle which word they thought they heard. For the second task, completed directly after the first task, the participants wrote on their answer sheet the one or two words they heard for Task 2 (see Appendix B). Upon completion of both tasks, which took about four and a half minutes, students filled out a background questionnaire (see Appendix C), which included questions about their prior personal and academic experiences with the Spanish language.

Data Analysis

In Task 1, the participants listened to 80 words. If a participant perceived /s/-weakening as having an /s/, as opposed to nothing, the only other option, then it was counted as correct. Task 1 included eleven tokens, or samples, of /s/-weakening. Only subjects who responded to all 80 words were included in the analysis, leaving a total 71 subjects for Task 1: 19 in beginner Spanish, 21 in intermediate Spanish, 27 in advanced Spanish, and two native speakers.

For the second task the subjects listened to 12 units, each consisting of a noun or a noun with its article. Within these 12 units there were nine samples, or tokens of /s/-weakening. A token was counted as correct if a participant wrote something in the space where the /s/ should have been. For example one of the advanced Spanish students wrote "*tofcco*" and another wrote "*tozco*" when the correct answer was "*tosco*". A few subjects left several items blank, so their data were excluded, leaving a total of 56 subjects for Task 2: 16 in beginning Spanish, 13 in intermediate Spanish, 25 in advanced Spanish, and two native speakers.

The percentage of correct perceptions of each type of /s/-weakening was calculated for each task along with the total number of occurrences of /s/-weakening. A series of one-way ANOVA tests were calculated in order to compare differences across proficiency levels in each task.

Results

Table 1 displays the mean and standard deviation of /s/-weakening perception of each group. The one-way ANOVA conducted to test the differences across the groups resulted in significant differences for the native speakers and the students, f (3, 40) = 7.46, $p < .001$. The least significant difference (LSD) post hoc test reveals significant differences between the native speakers and beginning $p < .001$, intermediate, $p < .001$, and advanced proficiency levels, $p < .001$. Although there was a dif-

ference of 7% between the beginning and intermediate students, this difference was not significant. This demonstrates that although the students are heading in the direction of the native speakers, they have a long way to go before their performances approximate target-like norms.

Table 1

Results from Task 1.

Proficiency Level	*M* (%)	*SD* (%)
Beginning	31.10	29.63
Intermediate	38.02	39.38
Advanced	38.11	34.81
Native Speakers	49.54	40.62

The results of Task 2 are displayed in Table 2. There is an increase in /s/-weakening perception as proficiency level increases. The one-way ANOVA resulted in significant differences, $f(3, 32) = 5.38$, $p < .01$. The Games-Howell post hoc test demonstrated a significant difference between the native speakers and the beginning students, $p < .05$. The difference between the native speakers and the intermediate level students was approaching significance, $p < .1$. This difference was not significant for advanced students.

Table 2

Results from Task 2.

Proficiency Level	*M* (%)	*SD* (%)
Beginning	7.05	17.56
Intermediate	16.53	29.21
Advanced	22.70	31.71
Native Speakers	66.67	50.00

Discussion

In response to the first research questions: *Do adult native English speakers learning Spanish perceive /s/-weakening?* and *If /s/-weakening is perceived, are there differences across proficiency levels?*, students of Spanish do perceive /s/-weakening, but the extent of this perception varies based on the level of the Spanish course. In the first task, the students in advanced and intermediate Spanish courses both perceived /s/-weakening 38% of the time, only slightly more than students in beginning Spanish courses at 31%. In the second task the level of perception increased as the level of the Spanish course increased. The students in the current study demonstrated greater capacity to perceive the /s/-weakening feature than those in the study of Rasmussen and Zampini (2010), where students primarily perceived the feature in function words (i.e., definite and indefinite articles) as opposed to content words, the latter constituting the primary focus of the current study.

In response to the second research question: *How do students' perception of /s/-weakening compare to native speakers' perception of /s/-weakening?*, native speakers outperformed all of the students, perceiving /s/-weakening 50% of the time in the first task. This percentage is not large, which demonstrates the difficulties that even native speakers of non /s/-weakening dialect have when perceiving this feature with little to no context clues. With respect to the second task, native speakers outperformed the best students by 44%. It is suggested that if students are able to perceive /s/-weakening, it may be easier for them to understand the varieties of Spanish they will potentially encounter as Spanish language users, many of which could include /s/-weakening. These regional differences are important, as much of the input such as listening comprehension activities provided to foreign language learners comes from a variety of sources that include a variety of dialects. As a rule, dialects comprise different sounds, and to the extent that learners adapt to varied dialects, the better their comprehension of the TL.

In response to the third research question: *How do adult native English speakers learning Spanish perceive /s/-weakening?*, the majority of the time, students perceived /s/-weakening in Task 1 as deletion of the /s/. This mis-perception can potentially create misunderstanding, for example perceiving '*pasta*', or pasta, as '*pata*', or duck. That is, in a situation lacking additional context, students would understand the word *pata* when spoken by a speaker from an /s/-weakening dialect instead of the word *pasta*. Regarding Task 2, students perceived /s/-weakening as /s/, nothing, and the following: one intermediate learner wrote '*narij*' instead of '*nariz*', one advanced learner wrote '*tofcco*' instead of '*tosco*', one advanced learner wrote '*una escuchara*' and one wrote '*una escuchada*' instead of '*unas cucharas*'. It is interesting to note that only the intermediate and advanced students perceived /s/-weakening as something other than /s/ or deletion. The 'f', but not the 'j' was found in previous studies (Schmidt, 2011). However, 'j' was not one of the options provided in Schmidt (2011) where students could choose among 'f', 'l', 'r', 'n', 'nothing', or 's' after listening to a nonce, or made up word, containing /s/-weakening.

The intermediate students in the current study exhibited similar percentages of /s/-weakening in Task 2 as Rasmussen and Zampini's (2010) intermediate and advanced learners at the beginning of their time abroad. The advanced students in the current study exhibited slightly higher percentages, but these differences were not significant. Because instruction while abroad resulted in a 27% increase in perception of /s/-weakening as opposed to only a 10% increase by those who traveled overseas with the study abroad program, but received no formal instruction while there (Rasmussen & Zampini, 2010), instruction in the classroom in a non-study abroad environment may also result in such improvement. Although this is a plausibly appealing speculation, it is unknown at what level this instruction should occur, in the absence of research specifically investigating that claim.

There is some indication in the second task that Spanish students advance their perception of the /s/-weakening feature as they progress through the levels of Spanish. This improvement based on proficiency level was also evidenced in the research of Trimble (2011) and Schmidt (2011). It may be suggested that perception of /s/-weakening develops exponentially, rather than in a linear manner, such that significant increases in perception take longer as learners progress upward in their general

language competency. To fully prove this, including an additional group of graduate student learners of Spanish as study participants may have resulted in significant difference between intermediate and advanced students, as was true in Geeslin and Gudmestad (2008), where only five advanced students (out of 130 students of varying proficiency levels) is producing /s/-weakening.

Limitations and Future Studies

There are several limitations to this study. The number of subjects in the study, a total of 67 across three different levels of Spanish courses, was small. The inclusion of more levels of Spanish courses and more participants in each level could strengthen the validity of the current study and provide additional insight into the findings. In addition, the order of the tasks might have affected the results. Students may have been aware of what they were being tested on when they started Task 2, simply based on completing Task 1. Also, a future study could include a measure to determine the familiarity of the words used in each task. Familiarity with the words could result in better perception of /s/-weakening. A final limitation is that proficiency was determined based on the course the students were taking, which was determined by previous coursework and proficiency tests used by the university. A future study could include a more objective measure of proficiency to ensure that students are indeed at differing levels of proficiency.

Future studies could investigate if students produce /s/-weakening in their own speech. Currently, there are no studies that investigate both the perception and the production of /s/-weakening by Spanish students. Finally, future research could expand on Rasmussen and Zampini's (2010) study on the effects of instruction while abroad and include instruction on /s/-weakening for Spanish students at various levels to determine its effects in the classroom environment in the US. Future studies could also explore the effect of study abroad on the perception of /s/-weakening. For example, are students that study abroad in /s/-weakening Spanish regions better at perceiving /s/-weakening than their peers at similar proficiency levels who have never studied abroad or studied in non /s/-weakening regions?

Implications for Teaching

Despite the fact that Arteaga (2000) argues for the teaching of major regional phonological features starting in the beginning Spanish language classroom, Gutierrez and Fairclough (2006) state that it is not common practice for language instructors to teach students about the various regional features, as standard varieties are typically favored over other varieties. Accordingly, the most standard variety of Spanish is the one put forth by the *Real Academia Española*, which does not include any regional features spoken outside of Madrid, Spain. Similarly, the most standard variety of French is the one put forth by the *Académie Française* in Paris, France. Gutierrez and Fairclough (2006) go on to argue that "sociolinguistic variation should be incorporated in the classroom" such that students are at the very least exposed to the features of the major target language regions (p. 186).

This study has implications for the teaching and learning of sociolinguistic features. For L2 instructors of students who likely will not participate in a study abroad

program, it is important to expose language students to the major regional differences of the TL. Such exposure, from the beginning of language learning, could allow students more ease of understanding the many different varieties of the TL they may encounter in their academic study of Spanish or future life experiences. As Rasmussen and Zampini (2010) have revealed, students perceive a sociolinguistic feature only up to 15% of the time prior to receiving explicit instruction on the feature and often rely on context clues to perceive this feature. This means that the students are not fully able to comprehend the feature and have very little comprehension when there are no contextual clues available to them, as was the case in the current study.

For L2 instructors of students who might travel abroad in the future, the chances of learners encountering a native speaker who exhibits a major regional feature of the TL is quite high. For example, due to increasing globalization and human boundary-crossing world wide, it is quite possible that learners studying in a region where they may not hear /s/-weakening by locals may hear it produced by an immigrant. The current study confirms that even at advanced levels, students are not able to perceive this major feature as well as native Spanish-speakers from areas where the feature is not employed. It is essential that students perceive this feature due to the likelihood they will encounter native speakers who employ the feature on a regular basis. One potential mechanism for assisting students is by exposing them to this feature and other common regional features through explicit instruction.

Because language learners are exposed to a variety of TL speakers, some of whom use unique regional features in their speech, early and ongoing exposure to these features in the foreign language classroom could strengthen comprehension of the TL. The majority of the learners in the current study reported no prior knowledge of the regional feature under examination. If students were aware of these regional features from the beginning of formal language study, they would be better equipped to perceive the features and determine many factors about speakers, such as what the region of origin is, if one uses formal or informal speech, and socioeconomic status.

The need for language educators to address regional features in their teaching stems from the fact that it could lead to more effective communication and in turn greater sociolinguistic competence. The current study revealed that beginning Spanish students generally lack the ability to perceive the feature. It is recommended that some type of intervention be implemented in the L2 classroom. At the very least, in line with Arteaga (2000), L2 teachers should expose students to the major sociolinguistic features of the TL. This could result in increased listening comprehension when faced with speakers from different regions where the TL is spoken.

Conclusion

This experiment demonstrated that, while L2 Spanish university students are much weaker than native Spanish speakers at perceiving /s/-weakening, there are differences across levels of Spanish. In both tasks the advanced students performed better than the beginning students, mirroring the findings of Schmidt (2011) and Trimble (2011). In general L2 learners do not perceive /s/-weakening as the /s/ being present in the word. They tend to perceive it as deletion, but not in the same way as native Spanish speakers.

This research contributes to the field of variable features of Spanish as perceived by L2 Spanish learners. It demonstrates that intermediate and advanced students more readily perceive /s/-weakening than beginning students, regardless of whether they have formal instruction on the feature. Nevertheless, learners have not yet reached native-like norms. It is especially important for learners to perceive common sociolinguistic features if they are to gain competence in the TL and correctly interpret spoken language. Pedagogical intervention could support learners in attaining native-like comprehension of sociolinguistic features, but additional research is needed to make conclusions about such interventions.

The need for understanding sociolinguistic features is two-fold. First, increased understanding dispels negative conceptualizations of the TL. Language can vary for a variety of reasons. One reason deals with the social stigma attached to certain features. Learners that can perceive sociolinguistic features will in turn be able to perceive more about the speaker, such as their socioeconomic level. Language also varies due to geographic location. This intersects with social stigma, because a feature that is stigmatized in one geographic location may not be stigmitized in another. An additional reason is due to different registers, or (e.g., formal vs. informal speech). Increased understanding based on real information and knowledge has the power to break down negative preconceptions. Finally, learners who are able to perceive sociolinguistic features are potentially better at comprehending the variety of the TL that is characterized by those features. In a world where learners have access to a broad spectrum of TL speakers, via the Internet and other sources, they are likely to be exposed to a diversity of TL varieties. Knowing which major sociolinguistic features are associated with each language variety can facilitate more in-depth comprehension of the TL in addition to informing learners about the speaker in terms of style, register, and origin. Learners that eventually want to incorporate sociolinguistic features in their speech will benefit from knowing why the features vary. To the extent that language learners are exposed to language varieties, the greater their cultural understanding and sensitivity as well as their effectiveness in communication

Notes

1. According to Lipski (1994) word final and syllable final /s/ is almost always weakened or deleted in Venezuelan Spanish. Sanchez (2004) claims that aspiration is the norm in countries like Venezuela, which exhibits similar /s/-aspiration patterns as Caribbean countries.

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Appendix A

Student Blank Answer Sheet

Task 1: Circle the word you think you hear. Respond as quickly as possible after hearing each word.

1. torro	toro	41. caña	daña
2. dado	dedo	42. gama	cama
3. costa	cota	43. diente	dientes
4. lee	lea	44. termine	terminé
5. cabeza	cabezas	45. gato	gasto
6. tos	dos	46. tejar	dejar
7. poseo	posee	47. cuchillos	cuchillo
8. siéntete	siéntate	48. pedo	pero
9. la bata	la pata	49. sueño	sueños
10. tosco	toco	50. casa	gasa
11. pero	paro	51. vuelto	vuelta
12. joda	jora	52. pedo	pero
13. sentido	sentado	53. gasto	casto
14. año	ano	54. baso	paso
15. pata	pasta	55. gana	cana
16. ojos	ojo	56. come	comer
17. estético	esférico	57. una cura	unas curas
18. unas cervezas	una cerveza	58. todo	foro
19. práctica	practica	59. mala	malo
20. toro	todo	60. pelo	palo
21. isla	hila	61. bañar	dañar
22. los socios	los ocios	62. puma	poma
23. puente	fuente	63. algunas mujeres	alguna mujer
24. las suecas	la sueca	64. hueso	hueco

25. tus fuentes	tu fuente	65. tan	dan
26. mi bisabuelo	mis bisabuelos	66. sube	supe
27. una rambla	unas ramblas	67. vaca	vasca
28. mis papeles	mi papel	68. unas cubanas	una cubana
29. busque	busquen	69. todo	foro
30. algunas vacas	alguna vaca	70. mis lentes	mi lente
31. pecar	becar	71. piro	pido
32. su nariz	sus narices	72. time	dime
33. joda	jora	73. gatos	datos
34. plasta	plata	74. las reuniones	la reunión
35. gato	gasto	75. pizco	bizco
36. aceptó	acepto	76. pido	piro
37. las naranjas	la naranja	77. toro	todo
38. basar	pasar	78. capital	capitel
39. las nativas	la nativa	79. costa	cota
40. poder	podar	80. tierras	tierra

Appendix B

Task 2: Write the word(s) you think hear. Respond as quickly as possible after hearing each word(s).

1.	2.	3.	4.
5.	6.	7.	8.
9.	10.	11.	12.

Appendix C

Background Questionnaire

1. Circle one: Male   Female

2. How old are you? _____

3. Is your native language English: Yes   No

    If you circled no, what is your native language(s)? _____

    What city and state(s) did you grow up in? _____

4. How long have you studied Spanish?

    Elementary School _____

    Middle School _____

    High School _____

    University _____

5. Which Spanish speaking countries have you traveled to? What was the purpose of going to each country? How long did you spend in each country?

Country	Purpose (i.e. vacation, study abroad)	Time

6. Have you studied any other languages besides Spanish?   Yes   No

    If yes, which languages? _____

    How long did you study each language? _____

7. Have you ever studied linguistics?

    If yes, what do you know about s-aspiration?